

A SYSTEM AND METHOD FOR CORRELATED PROCESS PESSIMISM REMOVAL FOR STATIC TIMING ANALYSIS

Abstract of the Disclosure

A method of removing pessimism in static timing analysis is described. Delays are expressed as a function of discrete parameter settings allowing for both local and global variation to be taken in to account. Based on a specified target slack, each failing timing test is examined to determine a consistent set of parameter settings which produces the worst possible slack. The analysis is performed on a path basis. By considering only parameters which are in common to a particular data / clock path-pair, the number of process combinations that need to be explored is reduced when compared to analyzing all combinations of the global parameter settings. Further, if parameters are separable and linear, worst-case variable assignments for a particular clock/data path pair can be computed in linear time by independently assigning each parameter value. In addition, if available, the incremental delay change with respect to each physically realizable process variable may be used to project the worst-case variable assignment on a per-path basis without the need for performing explicit corner enumeration.